

## REMARKS

Claims 1-6, 9-17, and 20-35 remain pending. In the present Office Action, claims 1, 12, and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Feinberg et al., U.S. Patent No. 5,910,903 ("Feinberg"). Claims 2-6, 13-17, 23-29, and 31-35 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Feinberg in view of "Handbook of Simulation" edited by Jerry Banks ("Banks"). Claims 9-11 and 20-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Feinberg in view of "Concepts of Programming Languages" by Robert Sebesta ("Sebesta"). Claims 1-6, 9-17, and 20-35 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Feinberg in view of Sano et al., U.S. Patent No. 5,991,533 ("Sano"). Applicants respectfully traverse these rejections and request reconsideration. A provisional non-statutory double patenting rejection remains in abeyance.

The present Office Action essentially maintains the rejections from the previous Office Action mailed March 9, 2005, with updates to the rejections made to reflect the amendments to the claims in the Response mailed April 7, 2005 (the "previous response"). **Applicants respectfully reassert the remarks illustrating why the pending claims are patentable from the previous response, and incorporate them by reference herein to preserve them for appeal.** Applicants Response to Arguments section of the present Office Action below.

### Claims 1-6, 9-17, 20-22, and 30-35

With regard to claims 1-22, the Response to Arguments section alleges that Feinberg teaches "the hub is configured to route the message packets from the first node to the second node and from the second node to the first node". Specifically, the Response to Arguments section highlights the data gathering taught by Feinberg at col. 6, lines 12-20 as teaching data transmission in the direction of simulator to control computer (Office Action, page 3, second paragraph). The Response to Arguments section highlights the simulation control by Feinberg's control computer taught by Feinberg at col. 7, lines 19-25 as transmission in the direction of control computer to simulator (Office Action, page 3, third paragraph). The Response to Arguments section then

concludes that Feinberg's control computer "is in communication with the simulators, receives data from the simulators for analysis, and in a preferred embodiment can control the simulators. Thus the control computer is indeed a hub in the distributed simulation taught by Feinberg." (Office Action, page 3, fourth paragraph). Applicants do not disagree that Feinberg's control computer is in communication with the simulators, receives data from the simulators for analysis, and can control the simulators. However, Applicants disagree that the control computer teaches "the hub is configured to route the message packets from the first node to the second node and from the second node to the first node".

Nothing in Feinberg's communication between the control computer and the simulators teaches or suggests a hub as recited in claim 1. Rather, Feinberg's control computer generates control commands and transmits them to the simulators, and collects data from the simulators. Thus, there is no communication from one simulator that is routed through the control computer to another simulator. Rather, communication between simulators is accomplished directly, by the PDUs exchanged directly between the simulators. Communication between the control computer and a given simulator is not routed to another simulator. In fact, Feinberg teaches away from using a hub as recited in claim 1, as highlighted in the previous response (that is, Feinberg teaches directly exchanging the PDUs between simulators and the control computer does not disturb this arrangement).

Sano is relied on to teach an IEEE 1364-1995 verification system. Sano does not teach or suggest the hub as recited above, and thus the alleged combination of Feinberg and Sano does not teach or suggest the combination of features recited in claim 1.

For at least all of the above stated reasons, Applicants respectfully submit that claim 1 is patentable over the cited art. Claims 2-6 and 9-11, being dependent from claim 1, are similarly patentable over the cited art for at least the above stated reasons. Each of claims 2-6 and 9-11 recite additional combinations of features not taught or suggested in the cited art. Given the patentability of claim 1, as discussed above, additional remarks

regarding such additional combinations are deemed unnecessary at this time. **However, Applicants reserve the right to present such additional remarks on appeal.**

Claim 12 recites a combination of features including: "communicating at least signal values during the simulating using message packets ... and routing the message packets through a hub coupled to the first node and the second node; ... wherein the first node and the second node communicate at least signal values during the simulating". The same teachings of Feinberg and discussion in the Response to Arguments section of the present Office Action relied on with respect to claim 1 is relied on with respect to claim 12. For the reasons highlighted above, Applicants respectfully submit that claim 12 is patentable over the cited art. Claims 13-17 and 20-22, being dependent from claim 12, are similarly patentable over the cited art for at least the above stated reasons. Each of claims 13-17 and 20-22 recite additional combinations of features not taught or suggested in the cited art. Given the patentability of claim 12, additional remarks regarding such additional combinations are deemed unnecessary at this time. **However, Applicants reserve the right to present such additional remarks on appeal.**

Claim 30 recites a combination of features including: "the hub is configured to route message packets from the first node to the second node and from the second node to the first node during simulation, the message packets including message packets that communicate at least signal values". The same teachings of Feinberg relied on with respect to claim 1 are relied on with respect to claim 30. Applicants respectfully submit, as highlighted in the previous response and above, that Feinberg does not teach or suggest the above highlighted features, either. Accordingly, Applicants respectfully submit that claim 30 is patentable over the cited art. Claims 31-35, being dependent from claim 30, are similarly patentable over the cited art for at least the above stated reasons. Each of claims 31-35 recite additional combinations of features not taught or suggested in the cited art. Given the patentability of claim 30, additional remarks regarding such additional combinations are deemed unnecessary at this time. **However, Applicants reserve the right to present such additional remarks on appeal.**

### Claims 23-27

With regard to claims 23-27, the Response to Arguments section of the present Office Action summarizes Applicants previous remarks by asserting "Applicants allege that it would not be obvious, in view of the cited references, to simulate a standards-compliant device in accordance with the particular standard (by referring to the standards-compliant logic recited in the claim)" (Office Action, page 4, last paragraph continuing onto page 5). Applicants respectfully submit that this is an oversimplification of Applicants remarks and misses the point of the remarks. Applicants did not argue that a non-blocking assignment would not be obvious in view of the cited references. Rather, Applicants argued that the action taken in response to a non-blocking assignment would not be obvious. For example, claim 23 recites a combination of features including "a first model comprising a representation of logic to perform a non-blocking assignment and logic to schedule a call of at least a first code sequence responsive to the non-blocking assignment, and the first code sequence comprising instructions executable to sample output signals and drive input signals of a second model".

Thus, claim 23 recites a specific mechanism for responding to a non-blocking assignment (logic in the first model scheduling a call of at least a first code sequence responsive to the non-blocking assignment, and the first code sequence sampling output signals and drive input signals of a second model). The mere existence of non-blocking assignments in the prior art does not teach or suggest the above highlighted features in response to a non-blocking assignment. The Office Action has presented no evidence that either Feinberg, Banks, or the IEEE 1394 standard teaches "a first model comprising a representation of logic to perform a non-blocking assignment and logic to schedule a call of at least a first code sequence responsive to the non-blocking assignment, and the first code sequence comprising instructions executable to sample output signals and drive input signals of a second model". The mere teaching of non-blocking assignments is insufficient to teach these specific features. Nothing in Feinberg, Banks, nor the combination thereof teaches or suggest the above highlighted features.

Furthermore, as to the remarks that that the Office Action fails to provide a proper *prima facie* case of obviousness of claim 23 because it fails to provide a proper motivation to combine and/or modify the references, the Office Action states that the nature of the problem solved and the knowledge of ordinary skill in the art can be sources of a motivation to combine references. Applicants do not dispute this. However, it is still the burden of the Office Action, to establish a *prima facie* case of obviousness, to make particular findings of motivation must be set forth and substantial evidence must be provided (see, e.g., *In re Kotzab*, 55 USPQ2d, 1313, 1317 (Fed. Cir. 2000): "Whether the board relies on an express or an implicit showing, it must provide particular findings related thereto...broad conclusory statements alone are not 'evidence'"). Thus, it is the Office Action's burden to explain in detail what the motivation to combine is, rather than merely stating its source, as the present Office Action does. Accordingly, Applicants continue to assert that a *prima facie* case of obviousness has not been proven.

For at least all of the above stated reasons, Applicants respectfully submit that claim 23 is patentable over the cited art. Claims 24-27, being dependent from claim 23, are similarly patentable over the cited art for at least the above stated reasons. Each of claims 24-27 recite additional combinations of features not taught or suggested in the cited art. Given the patentability of claim 23, as discussed above, additional remarks regarding such additional combinations are deemed unnecessary at this time. **However, Applicants reserve the right to present such additional remarks on appeal.**

#### Claims 28-29

With regard to claims 28-29, the Response to Arguments section states "where Applicant's claim recites 'cause a cycle-based simulator to evaluate a clock cycle in a model responsive to a number of the timesteps equaling a number of timesteps per clock cycle of a clock corresponding to the model', the Examiner has shown that Banks teaches: if a specified condition is met, a rule is fired, meaning that an action is taken. For clarity, the Examiner has interpreted '[the number of the timesteps] equaling a number of timesteps per clock cycle of a clock corresponding to the model' as Banks' 'specified condition'".

Applicants respectfully submit that Banks' broad teaching of some amorphous "specified condition" fails to teach or suggest the specific features recited in claim 28 (i.e. " a number of timesteps per clock cycle of a clock corresponding to the model "). For a proper *prima facie* case of obviousness, the combination of references must teach each and every feature of the claim. In no way does the broad "specified condition" even remotely teach or suggest "a number of timesteps per clock cycle of a clock corresponding to the model".

For at least all of the above stated reasons, Applicants respectfully submit that claim 28 is patentable over the cited art. Claim 29, being dependent from claim 28, is similarly patentable over the cited art for at least the above stated reasons. Claim 29 recites additional combinations of features not taught or suggested in the cited art. Given the patentability of claim 28, as discussed above, additional remarks regarding such additional combinations are deemed unnecessary at this time. **However, Applicants reserve the right to present such additional remarks on appeal.**

#### Section 101 Response

The Office Action has rescinded the section 101 rejection. However, in the Response to Arguments section, the Office Action alleges that "a simulation result is not necessarily tangible. In the case of a mathematical simulation or a simulation executed by a computer, a 'simulation result' is the product of mathematical operations and is therefore intangible". Applicants respectfully submit that this analysis ignores the explicit decision of *State Street Bank & Trust Co. v. Signature Financial Group Inc.* 149 F. 3d 1368, 47 USPQ 2d 1596. The simulation result is exactly analogous to the final share price in *State Street*. The final share price in *State Street*, of course, is the product of mathematical operations as well. However, it is useful and tangible, as is the simulation result.

Information Disclosure Statement (IDS)

Applicants note that an additional IDS was filed on July 21, 2005 (after the mailing date of the present Office Action). Applicants respectfully request consideration of the IDS, and a return of the PTO-1449 form included therewith, initialed and signed by the Examiner to evidence such consideration.

### CONCLUSION

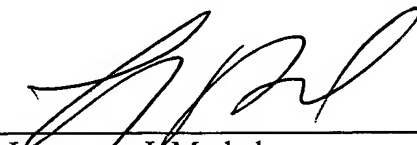
Applicants respectfully submit that the application is in condition for allowance, and an early notice to that effect is requested.

If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5181-96200/LJM.

Also enclosed herewith are the following items:

- ☒ Return Receipt Postcard
- ☐ Petition for Extension of Time
- ☐ Request for Approval of Drawing Changes
- ☐ Notice of Change of Address
- ☐ Fee Authorization Form authorizing a deposit account debit in the amount of \$  
for fees (      ).
- ☐ Other:

Respectfully submitted,



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